

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-19 (Canceled).

Claim 20 (New): A receiver apparatus provided with a smart antenna capable of adjusting a directivity of the smart antenna by making use of a plurality of antenna elements, said receiver apparatus comprising:

a plurality of Fourier transformation sections which are connected to said plurality of antenna elements and configured to output signals carried on sub-carriers orthogonal to each other from signals received by each of said antenna elements;

a plurality of parallel-to-serial conversion sections which are connected respectively to said Fourier transformation sections and configured to perform parallel-to-serial conversion of the signals carried on said sub-carriers as Fourier transformed in a time division manner;

a pilot signal extraction unit which intermittently extracts signals carried on pilot sub-carriers having predetermined center frequencies from the output signals of said parallel-to-serial conversion sections;

an antenna weight calculation unit which is connected to said Fourier transformation sections and said pilot signal extraction unit and configured to calculate an antenna weight of each antenna elements corresponding to each of sub-carrier groups by the use of the signals carried on said pilot sub-carriers as extracted by said pilot signal extraction unit, each sub-carrier group including a plurality of the sub-carriers whose center frequencies are located in a vicinity of a center frequency of one pilot sub-carrier;

a plurality of weighting units which are connected to said parallel-to-serial conversion sections and said antenna weight calculation unit and configured to multiply the output

signals of said parallel-to-serial conversion sections with said antenna weights as calculated by said antenna weight calculation unit for each of the sub-carrier groups;

an adder circuit which is connected to said weighting units and configured to add together the signals of said sub-carrier groups as weighted with said antenna weights for each of said antenna elements; and

a timing controlling unit which is connected to said pilot signal extraction unit and said antenna weight calculation unit and configured to supply timing signals to said pilot signal extraction unit and said antenna weight calculation unit in order that said antenna weight of each antenna elements is switched for each said sub-carrier group in a cyclic manner.

Claim 21 (New): The receiver apparatus as claimed in claim 20, wherein said weighting units are configured to receive the signals on said sub-carriers as output from said Fourier transformation sections in parallel and weight the parallel signals as output from said Fourier transformation sections in parallel.

Claim 22 (New): The receiver apparatus as claimed in claim 20, wherein said antenna elements and said Fourier transformation sections are connected through high frequency wave reception circuits which are configured to perform at least filtering, low noise amplification and frequency conversion.

Claim 23 (New): The receiver apparatus as claimed in claim 22, wherein said high frequency wave reception circuits and said Fourier transformation sections are connected through analog-to-digital converters which are configured to convert analog signals output

from said high frequency wave reception circuits to digital signals and transfer said digital signals to said Fourier transformation sections.

Claim 24 (New): The receiver apparatus as claimed in claim 23, wherein said analog-to-digital converters and said Fourier transformation sections are connected through a serial-to-parallel converter which is configured to convert serial signals output from said analog-to-digital converters to parallel signals and transfer said parallel signals to said Fourier transformation sections.